



Manhattan Project legend turns 100

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Someone who played a key role in the work that marked the start of the Laboratory's 75-year history of scientific innovation recently paid a return visit to Los Alamos.

Recognized as a key member of the Manhattan Project, John Tucker's contributions to detonator science are virtually unparalleled. As a Naval officer during World War II, he served in Los Alamos and the Pacific Islands, arming and readying the world's first atomic weapons for use against Japan.

After the war, Tucker returned to Los Alamos, leading the development of the Laboratory's detonator firing site. He spent the remainder of his career at the Laboratory, ultimately authoring two crucial reference works that are still in use today. He officially retired in 1982 but stayed active as a consultant for another decade.

At a celebration at the Lab to mark his 100th birthday, members of today's detonator science and technology group and other Laboratory leadership, including Director Terry Wallace, reflected on Tucker's 40-plus years of service to the national defense mission and his contributions to detonator science, which continue to support the safety and performance of the United States' nuclear weapons stockpile. A conference room was dedicated to Tucker and will be fitted with a memorial plaque.

Centenarian John Tucker (left) with Laboratory researcher Daniel Preston at the recent celebration of Tucker's birthday at the Lab. Tucker drove up from his home in Santa Fe for the event.

"Since the Manhattan Project, Tucker has made numerous contributions to the Weapons Programs and his legacy continues to carry the day with two major references he authored," says Laboratory researcher Daniel Preston, one of the event's organizers.

"Our work today parallels those who came before us, and learning about the contributions of one of the founding fathers of detonator science is inspiring and motivating."

Tucker arrived in Los Alamos in 1945 at the behest of Lt. Cmdr. Norris Bradbury, working on the team ultimately responsible for ensuring an atomic bomb could be successfully dropped by aircraft.

The process for accomplishing the mission included rendering final bomb design and Firing Control Unit, or "fireset," as well as practicing and perfecting procedures for arming atomic bombs mid-flight to eliminate the possibility of a nuclear explosion if a plane were to crash on takeoff.

This posed a major challenge, as in-flight conditions were extremely variable (e.g., shaking, temperature changes, etc.) and workspace was limited. Tucker designed bomb-handling equipment and wrote disassembly, inspection, testing and assembly check sheets.

In anticipation of a successful Trinity test, Tucker was sent to the tropical U.S. base on Tinian Island in the Northern Mariana Islands, where America's B-29 bombers were strategically located about 1,500 miles from mainland Japan.

There, he and other members of the team ran test exercises using non-nuclear devices in preparation for the final construction of the bomb released over Nagasaki.

During final bomb construction, Tucker was personally responsible for selecting the fireset that armed the Fat Man weapon.

Fat Man was dropped Aug. 9, 1945. Six days later, Japan surrendered, ending World War II.

Get more information on John Tucker's contributions to the Manhattan Project:

- [Atomic Heritage Foundation](#)
- [Kurt Harms' Manhattan Project website](#)

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